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Multiple sequence alignment PS01124, HTH\_ARAC\_FAMILY\_2.

AARP	PROST/22-120	SEIIVWIEGNLTNR.....	LSLDDIAQHSGYTKWHLQRVERKIVGMPLEGYIRR	I
ADA	ECOLI/85-183	DKITHACRLLQEtp.....	VTLEALADQOVAMSPFHLLRFKATTGMMTPKAWQQAW	A
ADA	MYCTU/87-185	ARAMRLIADGTVDR.....	DGVSGLAAQOLGYTIQLERLICQAVVAGPIALARAQ	M
ADA	SALTY/94-183	-----LEQET.....	PVTLAFLAQAVAMSPFHLLRFKASTGMMTPKGWQQAW	A
ADAA	BACSU/102-200	DLITEYIDKNFTEK.....	LTLLESLADICHGSPYHMHRTEFKIKGITLVEYIQQV	V
ADIV	ECOLI/149-246	DSVYQITIESDIHKD.....	WNLSMVAVASCLCLSPSLKKLKSSENT-SYSQIITTC	M
AGGR	ECOLI/164-261	DKVRNTIEKDLISKR.....	WTLLAIADEFNVSEITIRKRLESEYI-T-FNQILMQS	M
APPY	ECOLI/139-236	CKITGIIISFNIERQ.....	WHLKDIADELITYTSESSLIKKRLDEGT-SFTEILRDT	M
ARAC	CITFR/180-279	RDACQYISDHLDAsn.....	FDIASVAQHVVCLSPRSRLSHLFRQQLGIVSVLSSWREDO	I
ARAC	ECOLI/180-279	REACQYISDHLDAsn.....	FDIASVAQHVVCLSPRSRLSHLFRQQLGIVSVLSSWREDO	I
ARAC	ERWCH/186-284	IEACQFITSNLAGE.....	LRIDEVARHVVCLSPRSRLSHLFRQQLGIVSVLSSWREDO	V
ARAC	SALTY/180-279	RDACQYISDHLDSh.....	FDIASVAQHVVCLSPRSRLSHLFRQQLGIVSVLSSWREDO	I
ARAL	STRAT/202-300	ASALTFLHRDPAHS.....	WTVAELASAAAVSRSTLAARFKATVQGQPLEYLTRW	I
ARAL	STRLI/202-300	ATALTCLHRDPARS.....	WTVALDADTAAVSRSTLAARFKATVQGQPLEYLTRW	I
CAFR	YERPE/8-107	NSIIQYIEENLESKF.....	INIDCLVLYSGFSRRYLQISFKYYGMPIGTYIRVR	A
CELD	ECOLI/168-274	DDVPQWLKSTVEKMhdkeqfs	SALENMVALSAKSQEYLTRATQRYYGGTPMQLINEI	I
CFAD	ECOLI/164-261	DKVRNVIEKDLSRK.....	WTLGIIADAFNVSEITIRKRLESENT-NFNQILMQL	M
CSVR	ECOLI/166-263	DKVRGVIEKDLSRK.....	WTLLAIADENVSEITIRKRLESENT-NFNQILMQS	M
ENVY	ECOLI/149-246	DSVCR1IQSDIQHY.....	WNLRIVASSSLCLSPSLKKLKNENT-SYSQIVTEC	M
EUTR	ECOLI/243-344	SRAREYVLENMSEP.....	VTVLDLCLNOLHVSRTLQNAFHALLGIGPNAWLKRI	L
EUTR	SALTY/243-344	SRAREYVLENMSEP.....	ITVLDLCLNOLHVSRTLQNAFHALLGIGPNAWLKRI	L
EXSA	PSEAE/171-269	ERLQLFMEKHYN	WKLSDFSREFGMGLTFKELFGSVYGVSPRAWISER	I
FAPR	ECOLI/154-251	ERIVTLLFSDLTRK.....	WKLSDIAEEMHISEISVRKRLEQECL-NFNQLLIDV	M
FEAR	ECOLI/199-299	QKVUTLDDNIREE	IRPEWIAGETGMSVRSLYRMFADKGL-VVAQYIRNR	L
GADX	ECO27/145-242	TRVCTVINNNAHE.....	WTLARIASELLMSPLSLKKLREEGT-SYSQQLTEC	M
GADX	ECO57/145-242	TRVCTVINNNAHE.....	WTLARIASELLMSPLSLKKLREEEET-SYSQQLTEC	M
GADX	ECOLI/145-242	TRVCTVINNNAHE.....	WTLARIASELLMSPLSLKKLREEEET-SYSQQLTEC	M
GLXA	RHIME/223-321	LAVLEKMETAIERP.....	LDRTAMARLLAGVSPRHLDRLFREHRGTGFLDTYREI	L
HRPB	RALSO/375-477	RAYRYLIENIERSd.....	LTTTREVAAHINVTERALQLAFKSAVGMSPPSVIRRM	L
INVF	SALTY/112-210	YWLVGYLLAQSTG.....	NTMRLMLGEDYGVSYTHFRRRLCSRALGGKAKSELNW	M
LACR	STAXY/174-272	QHAVDFINTNYQKH.....	ITVEDVAKSVNITRSHLYKLFKKNLGCSPKEYLTYI	M
LCRF	YERPE/167-265	ERLQKFMEENYLQG.....	WKLSKFAREFGMGLTFKELFGTVYGYISPRAWISER	I
LUMQ	PHOLE/148-246	VLIIDNYIEQHLQKK.....	ISVAELSSVAFLAQSQFYALFKSOMGITHPHQYVLRK	L
MARA	ECOLI/14-112	HSILDWIEDNLESP.....	LSLEKVSERSGYSKWHLQRMFKKETGHSLGQYIRSR	M
MARA	SALTY/14-112	HSILDWIEDNLESP.....	LSLEKVSERSGYSKWHLQRMFKKETGHSLGQYIRSR	M

Fig. 1A



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MELR\_ECOLI/194-292  
 MMSR\_PSEAE/201-299  
 MSMR\_STRMU/176-274  
 MXIE\_SHIFL/99-199  
 MXIE\_SHISO/99-199  
 ORUR\_PSEAE/241-338  
 PCHR\_PSEAE/201-296  
 PERA\_ECO27/168-265  
 POCR\_SALTY/195-293  
 PQRA\_PROVU/7-107  
 RAFR\_PEDPE/176-274  
 RAMA\_ENTCL/9-107  
 RAMA\_KLEPN/9-107  
 RHAR\_ECOLI/209-307  
 RHAR\_SALTY/179-277  
 RHAS\_ECOLI/174-272  
 RHAS\_SALTY/174-272  
 RHRA\_RHIME/210-310  
 RNS\_ECOLI/164-261  
 ROB\_ECOLI/8-106  
 SOXS\_ECOLI/7-105  
 SOXS\_SALTY/7-105  
 TCPN\_VIBCH/172-269  
 TETD\_ECOLI/31-129  
 THCR\_RHOER/227-328  
 URR\_ECOLI/171-268  
 URR\_PROMI/171-268  
 VIRF\_SHIDY/161-258  
 VIRF\_YEREN/167-265  
 VTRS\_MYCTU/236-334  
 XYLR\_ECOLI/288-386  
 XYLR\_HAEIN/288-386  
 XYLS\_PSEPU/214-315  
 XYS1\_PSEPU/214-315  
 XYS2\_PSEPU/39-140  
 XYS3\_PSEPU/214-315  
 XYS4\_PSEPU/214-315

I  
 DGLHAYMREHLHAR.....LTINDVAEHVKLNANYAMGIFORVMQLTMKOYITAM I  
 NOVKKIHSQYGS.....LELERIAAFCNLSKFHFVSRYKAITGRTPIQHFLHL I  
 YHLVLYLLRTIEKEK.....LRVNDIAKKLNLSRSYLYKIFRKSTNLSIKEYIQLV M  
 YHLVLYLLRTIEKEK.....EVRIKSLTEHYGVSEAYFRSLCRKALGAKVKEQLNTW L  
 TRVRLLLARPGDE.....PDLEQAARELHTSGRSLSRHLSSLGT-TYQQVLDLV K  
 HAARDLIVGALQEP.....PSLDTLASRVMGNPRLTAGFRKVFGASVFGYLQEY L  
 DRVVKVIELDISKN.....WKLDGVSSMMSDCLRKQNLKEN-TEKKIMLDI M  
 KKALRYIDAHLSSD.....LRLEDVASHVYLSPYYFSKLFKKYQGIGFNAWNRO M  
 NDLKWLLETOLQRN.....GIKIDTIAANKSGYSKWHQLQRIKFDFKGCTLGEGYVRKR L  
 NLAWSYLOENYSTG.....CTIMDLCHYLNLSRSYLYTLEFKTHANTSPQLLTKL L  
 DTIVEWDDNLHQF.....LRIEDIARHAGYSKWHQLQRLFLQYKGESLGRYRER L  
 DTIVEWDDNLHQF.....LRIIDIARHAGYSKWHQLQRLFLQYKGESLGRYRER L  
 DKLITRLLAASKP.....FALDKFCDEASCSSERVLRQQFRQTMINTQYLQRV V  
 DKLITLALANSLECF.....FALDAFCQOEQCSSERVLRQQFRQTMINTQYLQRV I  
 NLLAWLEDHFADE.....VNWDAVAQDFSLSLRTLHRLQKQHTGLTPQRYLNRL L  
 NQLMMAWLEDHFAEE.....VCWEEVAEQFSLSLRTLHRLQKQHTGLTPQRYLNRL L  
 ASIKMVRVEONLANS.....FSITDVAEAERITPRAIOKEFSREGT-TFSRYVLGR L  
 DKVRLNLLIEKDLSRK.....WTLGIIADAFNASEITIRKRLESENT-NFNQILMQL M  
 RDLLIWLEGHLDQP.....LSLDNVAAKAGYSKWHQLQRMFKDVTGHAIYIRAR L  
 QDLTAWIDEHIDQP.....LNIDVVAKKSGYSKWHQLQRMFRVTHTQLDGYIQR L  
 OTLIEWIDEHIDQP.....LNIDVVAKKAGYTKWYFORLFKKVTKVTASYIRAR L  
 EKISCLVKSDITRN.....WRWADICGELRTNMRMILKKELESRGV-KFRELINSI I  
 KDVLLWIEHNLDQS.....LLDDDVANKAGYTKWYFORLFKKVTKVTASYIRAR L  
 RLAVDYLEHAQQP.....LTVAQVARNVGVSRSQVGFQNSLGGTPMRQLKII M  
 QAITHLITQEPOKK.....WHLDDVAKALFTTPSTLRRHLLNREGV-SFRQLLIDV M  
 QAITHLITQDPQRK.....WHLEDVAKTLYTTPSTLRRHLSKEGV-SFCQLLLDV I  
 DQIRKIVEKNIERK.....WRLSDISNNNLSEIAVRKRLESEKL-TFQQILLDI M  
 ERLQKFMEEENYLOG.....WKLSKFAREFGMGLTTKELFGTVYGISPRAWISER I  
 ERVVGLARRLLPTGQ.....CSAEEIAADQQLDMHPTRLQRRRAEGL-RCHDLIERE R  
 IQAMHYIRRHACKG.....IKVDQVILDAVGISRSNLEQRFKEEVGETHAMIAHE L  
 IQAMHYIRRHACKR.....IKVGQVIDHLETRSNLEQRFKEMNKTIHQVIHEE I  
 ERVVQFIEENLKRN.....ISLERLAEIAMMSPRSLSYNLFEKHTTPKNYIRNR L  
 ERVVQFIEENLKRN.....ISLERLAEIAMMSPRSLSYNLFEKHTTPKNYIRNR L  
 ERVVQFIEENVKRS.....ISLEQLAELALMSPRSLYTMFEKHTTPKNYIRNR L  
 ERVVQFIEDNLKQS.....ISLERLAEALMSPRSLYTLFEKHTTPKNYIRNR L  
 ERVVQFIEENLKRN.....ISLERLAEALMSPRSLYTLFEKHTTPKNYIRNR L

Fig. 1B



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Y4FK RHISN/318-417  
 YA52 HAEIN/194-295  
 YBBB BACSU/166-264  
 YBCM ECOLI/165-262  
 YCGK ALTCA/67-163  
 YD95 MYCTU/242-343  
 YDEO ECOLI/137-233  
 YDIP ECOLI/183-281  
 YEAM ECOLI/158-258  
 YFIF BACSU/192-289  
 YH1W ECOLI/139-236  
 YIDL ECOLI/197-295  
 YIJO ECOLI/172-270  
 YISR BACSU/183-281  
 YKGA ECOLI/19-117  
 YKGD ECOLI/177-278  
 YMCR STRLA/184-281  
 YPDC ECOLI/184-282  
 YQHC ECOLI/213-311  
 AARP PROST/22-120  
 ADA ECOLI/85-183  
 ADA MYCTU/87-185  
 ADA SALTY/94-183  
 ADAA BACSU/102-200  
 ADIY ECOLI/149-246  
 AGGR ECOLI/164-261  
 APPY ECOLI/139-236  
 ARAC CITFR/180-279  
 ARAC ECOLI/180-279  
 ARAC ERWCH/186-284  
 ARAC SALTY/180-279  
 ARAL STRAT/202-300  
 ARAL STRLI/202-300  
 CAFR YERPE/8-107  
 CELD ECOLI/168-274  
 CFAD ECOLI/164-261  
 CSVR ECOLI/166-263

LKAEAFMRENLTNP.....VIEDLAAAARCTPRALQMRFRTYRGSSPMVSILCNY L  
 KRLNTALIAILQQPqn.....dWHIEQLAELATMSRANFIRIFQHQHGMSPGRFLTKV L  
 EKTKHIEHTADTK.....ITLAQLSQMAGISAKHYESFKKWTQGSVTEFIFTKT I  
 SRCYNLLSEPGTK.....WTANKVARYLYISVSTLHRRLASEGV-SFQSILDDV L  
 QNAMLYENNYFND.....INIDTVAFSVGSRSYLVQOFKLTATNKTINNRITEV I  
 RGITALVRSKLFRDsg.....1FPTFTDVAGELDMHPTLRRRLAEGT-SFRALLGEA S  
 GKVRNIVNMKPAHP.....WKLKDICDCDLYISESLLKKKLQEQT-TFSQILLDA M  
 KDILFYLNNNYREK.....ITLEQLSKKFRASVSYICHEFTKEYRISPINYVIQR M  
 PKIRTVMEMMAKGpve.....wGALGOWAGGPFAMSERNLARLIVKETGLSFRQWQQLQ L  
 TEVKLHKDNLSQLP.....LKLTDVASHFHISGRHLSRLFAAELGVSYSEFVQNE I  
 GKVERLISFDIAKR.....WYLRDIAYERMTSESLIKKKLQDENT-CFSKILLAS M  
 EKLJATLHASLQQR.....WSVADMAATIPCSEAWLRLFLRYTGKTPKEYYLLDA L  
 EAIRDYIDERYASA.....LTRESVAQAFYISPNYLYSHLFQKQTGAIGFNEYLNHT L  
 WEAAARYLQOEHYKEK.....TTIKDLSALHYHQDYSVSRCMQVQLGVTPAQYTNRV M  
 QOLLEWIECNLEHP.....ISIEDIAQKSGYSRNRNQOLLFRNFMHVPLEGYIRKR L  
 PRLGAVIQQMLEMPgh.....awTVESSLASTIAHMSRASFAQLFRDVSGTTPLAVLTKL L  
 DPILLRAVVSLEAG.....RSVTATADSUVGLGARQLHRRSLAAFGYGPKTARVL M  
 HSICNWNODNYAQP.....LTRESVAOFFENITPNHLSKLFAOHGTMREIEYVRWV M  
 SRVLKRIENKYEN.....LSVEQLAAEANMSVSAFHNFKSVTSTSPLQYLNKY L

CEAAKELQTTNL...QVIDIALKYQ DSQQS AKR KAYLGIS SLYRLS  
 RRLBRESLAKGE...SVTTSILNA PDSSYYRKADETTLGMTAKOFRHG  
 QTARVLIETTNL...PFGDVFAAA SSIRQ NDTVRACDGT TALRAR  
 RRLREALAKGE...PITAIIYRA PDSSYYRHADQTLGMTAKQFRKG  
 HAARKYLIQTNK..AIGDIAICV JANAPY ITL KKKTGQT ARFRQM  
 RYAVNEMMDGK...NISQVQSC NSTSY ISV KDFYGMT LHYVSQ  
 SKAALLLIDNSY...QISQISNMI SSTSY IRL VKHFGIT KQFLTY  
 RYAKKLITSNSY...SINYVAQKC NSTSY ICA KDYYGVT SHYFEK  
 SQAKLLLSTTRM...PIATVGRNV DDQLY SRV KKCTGAS SEFRAG  
 SQAKLLLSTTRM...PIATVGRNV DDQLY SRV KKCTGAS SEFRAG  
 ITRAKLJLQTTQE..SIANIGRVV DDQLY SRV RKRVGVS SDERRR  
 SQAKLLLSTTRM...PIATVGRNV DDQLY SRV KKCTGAS SEFRAG  
 ELTAROLREGSA...PLAIAHSV GSEALSVA KRVLGMM GDYRKH  
 ELAAROLREGNA..TLASIAHSV GSEALSVA KRVLGMP GDYRKH  
 SRAAALLRLTRL...TIEISAKLF DSQQT TRE KKIFGYT RQYRMI  
 NFARKQLEMNTN...SVTDAFEA SSSPL IKT KKLTSFT KSYRKK  
 SKAALLLJLENSY..QISQISNMI ISSASY IRV NKHYGVT QFETTY  
 SKAALLLLENSY..QISQISNMI ISSASY IRI NKHFGVTRSSFLII

Fig. 1C



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ENVY\_ECOLI/149-246 RYAVQMLMDNK..NITQVAQLC SSTSY ISV KAFYGLT INYLA  
 EUTR\_ECOLI/243-344 NAVRRELISPWSQSMTVKDAAMQW WHLGQ ATD QQLFSEK SLTLHQ  
 EUTR\_SALTY/243-344 NAVRRELISPWSQSMaTVKDAAMQW WHLGQ ATD QQLFAEK SLTLHQ  
 EXSA\_PSEAE/171-269 LYAHQLLLNSDM..SIVDIAMEA SSQSY TQS RRRFGCT SRSRQG  
 FAPR\_ECOLI/154-251 NQAAKFIIRSDH..QIGMIAISLV TSVSY IKT KEYGVT KKFEIG  
 FEAR\_ECOLI/199-299 DECADAIRHAADD..EKLAGIGFW SDQSH STV KQRFGMT GEYRRK  
 GADX\_ECO27/145-242 ORALQLIVIYGV..SIKRVAVSC HSVSY IYV RNYYGMT TEYQER  
 GADX\_ECO57/145-242 ORALQLIVIHF..SIKRVAVSC HSVSY IYV RNYYGMT TEYQER  
 GADX\_ECOLI/145-242 ORALQLIVIHF..SIKRVAVSC HSVSY IYV RNYYGMT TEYQER  
 GLXA\_RHIME/223-321 RHARRLQQSPL..SIEPIAYAT SSPAH SNA KRLFSQT GSLRRR  
 HRPB\_RALSO/375-477 EGIRSDLLSERPNSNIIDASRW IRSRSALVKG RKQFNEA SETIWR  
 INVF\_SALTY/112-210 AQSLINNSVEGHE..NITQLAVNH SSESH SSEIKELGVS RKLNSNI  
 LACR\_STAXY/174-272 YHASQOLLHTST..LISDISRQV KDFLL SKN TKHFEISASEYRHH  
 LCRF\_YERPE/167-265 LYAHQLLLNGKM..SIVDIAMEA SSQSY TQS RRRFGCT SQARLT  
 LUMQ\_PHOLE/148-246 DIAKQLIAERQK..PLSQVAQLC SSQSS SQA RRLYGMIS TRYQFF  
 MARA\_ECOLI/14-112 TEIAQKLIKESNE..PILYLAERY ESQTLTRT KNYFDVP HKYRMT  
 MARA\_SALTY/14-112 TEIAQKLIKESNE..PILYLAERY ESQTLTRT KNYFDVP HKYRIT  
 MELL\_ECOLI/194-292 NHVRALLSDTDK..SILDIALTA RSSSR YST GKYVGMIS QQYRKL  
 MMSR\_PSEAE/201-299 EYACQLLDSSDQ..SVARVGQAV DDSYY SRL SKVMGLS SAYQR  
 MSMR\_STRMU/176-274 KRSQYLLENPKL..SIAEISNSV SDSLA SKA KNYFGKS SKFRKE  
 MXIE\_SHIFL/99-199 VNGLLDVFLHNQ..TITSAAMNN RSTSH SNEIKTRLGFSARELSNI  
 MXIE\_SHISO/99-199 VNGLLDVFLHNQ..TITSAAMNN ASTSH SNEIKTRLGFSARELSNI  
 ORUR\_PSEAE/241-338 RLALQYLTTLQ..PLYELALL NDSNN RRA RKWTGKL SDYREA  
 PCHR\_PSEAE/201-296 REAHRMLCDEEA..NVSTVAYRV S-PAH SIA RKRYGIS SEIR--  
 PERA\_ECO27/168-265 KHASLFLRTTDK..NIDEISCLV NSTSY IKV KEYNTT KKYNGV  
 POCR\_SALTY/195-293 VSARELLCHSDW..SIASIARNL SQTSY CKV RQTYQVT QAYRQQ  
 PQRA\_PROVU/7-107 LEEAKSLOQEKDM..SILDIALMY SSQAT TRI KKHFNNT AKFREN  
 RAFR\_PEDPE/176-274 EDAKQRLSTSNN..SVQSIANMV KDSFT SKA KRYSGAS SYYRKS  
 RAMA\_ENTCL/9-107 LLAARDLRESDE..RVYEICLRY ESQQT TRI TRTEHQF GAYRKE  
 RAMA\_KLEPN/9-107 LLAARDLRTDQ..RVYDICKY DSQQT TRV TRTFNQP GAYRKE  
 RHAR\_ECOLI/209-307 CHAQYLLQHSRL..LISDISTEC EDSNY SVV TRETGMT SQWRHL  
 RHAR\_SALTY/179-277 CHAQYLLQHSPL..MISEISMQC EDSNY SVV TRETGMT SQWRHL  
 RHAS\_ECOLI/174-272 MKARHLLRHSEA..SVTDIAYRC SDSNH STL RREFNWS RDIROQ  
 RHAS\_SALTY/174-272 IKARHLLRHSDH..SVTEIAYRC GDSNH STL RREFNWS RDIROQ  
 RNS\_ECOLI/164-261 SLAKSLILAEGEa..tSISQIAYNV NDLSY NRT RSRYGVR SDLRRL  
 SKAALLLENSY..QISQISNMI ISSASY IRI NKHYGVT QKFFTY

Fig. 1D



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ROB\_ECOLI/8-106 SKSAVALRITAR...PILDIALQYR DSOQT TRA KKQFAQT ALYRRS  
SOXS\_ECOLI/7-105 LLAAVEVLRTTER...PIFDIAMDL VSQQT SRV RRQFDRT SDYRHR  
SOXS\_SALTY/7-105 LLAAVEVLRTTER...PIFDIAMDL VSQQT SRV RREFDRT SDYRHR  
TCPN\_VIBCH/172-269 SYSLMKTGEF...KIRQIAYQS ASVSY STV KSTMNV A SEYLFM  
TETD\_ECOLI/31-129 TKAAVEVLRLTKK...TITLEALKYQ DSQQS TRR KYIFKVT SYRRN  
THCR\_RHOER/227-328 QKARKDILRADPaseGVTEIAQRW LHVGR AGE KOTFGVS SEDLRT  
URER\_ECOLI/171-268 GMALNLYTFSNY...SVFQISHRC GSNAY CDV KRYKNMT SQFRLQ  
URER\_PROMI/171-268 PIALNLYTFSNY...YINDVSRLLI GSNAY CDA KRYKGMG SQFRTQ  
VIRF\_SHIDY/161-258 HAAKLLLNSQS...YINDVSRLLI ISSPSY IRK NEYYGIT KKFLY  
VIRF\_YEREN/167-265 LYAHQLLNGKM...SIVDIAMEA SSQSY TQS RRRFGCT SQARLT  
VIRS\_MYCTU/236-334 AQAARYLAQPGI...YLSQIAVLL SEQSLNRSRRWFGMT RQYRAY  
XYLR\_ECOLI/288-386 EKARSLLISTTL...SINEISQMC PSLQY YSV KKAYDTT KEYRDV  
XYLR\_HAEIN/288-386 SRAKNLQQTDI...SIKEITEIC PSIQLY YSV KKEFEMT KEFRLN  
XYLS\_PSEPU/214-315 ESIRACLNDSANvR SITEIALDY LHILGR AEN RSAFGEL SDTLRQ  
XYS1\_PSEPU/214-315 ESIRACLNDSANvR SITEIALDY LHILGR AEN RSAFGEL SDTLRQ  
XYS2\_PSEPU/39-140 ECYRACLSNPTTnR SITEVALDY FHTGR AEN RSTFGEL SDTLRL  
XYS3\_PSEPU/214-315 ECIRARLSDPNANvR SITEVALDY FHTGR AEN RSTFGEL SDTLRL  
XYS4\_PSEPU/214-315 ECIRARLSDPNANvR SITEVALDY FHTGR AEN RSTFGEL SDTLRL  
Y4FK\_RHISN/318-417 AAAHGAIAKAGRAG...SITELALNQ SNPGR SVL KSAYGLS SSALRF  
YA52\_HAEIN/194-295 QSAAFLLKQSQ...SVLIALEV QSEAH CKV KNYQLS SQYRKS  
YBBB\_BACSU/166-264 TKAKRIMAKSNC...KLKEIAHQI QDEFY SRI KKYTGCS TSYMKK  
YBCM\_ECOLI/165-262 NNALSAIQTIVK...PISEIAREN KCPSR TER HNRFNIT REIRKA  
YCGK\_ALTCA/67-163 EQAKKVLKK...SVTETAYEV NNSNY ATV KKRTNYT KQFKRT  
YD95\_MYCTU/242-343 TVAVDLRNVGL...TVQQVSTRL TEVST SHA KRWYGV A SEYSRR  
YDEO\_ECOLI/137-233 OHAKNLIRVEG...SYNKIAEQC ASTSY IYA RKHFGNS KRSKE  
YDIP\_ECOLI/183-281 TEAKWSLNTNL...SQAEISWRV ENVDH AKL LRHVGC S DYRRQ  
YEAM\_ECOLI/158-258 IMALQGLVKGD...TVQKVATHL DSTTA ITM KKGGLQGT GRYIAR  
YFIF\_BACSU/192-289 NKAELLKSTNL...SIKEIAEEI S-VHY TRV SAKIGSS GLFRSL  
YH1W\_ECOLI/139-236 SMARRLLELRQI...PLHTIAEKC SSTSY INT RQYYGVT HQFAQH  
YIDL\_ECOLI/197-295 DLALSLKQQGN...SVGEVADTLN FDSFH SKA KHKFGYA SAVLKN  
YIJO\_ECOLI/172-270 EHAKTLKGYDL...KVKEVAHAC VDSNY CRL RKNTERS SEYRQ  
YISR\_BACSU/183-281 TEAKRLSSTND...KMGVIAETV MEDDTY SKL KQIEGIS IEYRKI  
YKGA\_ECOLI/19-117 CRAAILVRLTAK...SMLDIALSLH DSQQS SRE KKLFGCS REYRHR  
YKGD\_ECOLI/177-278 QIAAQMFSERTL...PVVVIASEV ASESS HKA VREFGCT GEYRER  
YMCR\_STRLA/184-281 QRALRLARAGV...PFAETATLA ADQAHLARDREMAGSSILSELEVER  
YPDC\_ECOLI/184-282 AKARMILQKYHL...SIHEVAQRC PDSDY CRV RRQFGLT GEYSAR  
YQHC\_ECOLI/213-311 HKARMMIIHDGM...KASAAAMRV ESASQ SRE KRYFGVT GEDAAR

Fig. 1E



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MarA protein (BAA15221)

MTMSRRNTDAITIHSILDWIEDNLESPLSLEKVSERSGYSKWHLQRMFKKETGHSLG  
QYIRSRKMTEIAQKLKESNEPILYLAERYGFESQQTLRTFKNYFDVPPHKYRMTNM  
QGESRFLHPLNHYNS

Rob protein (AAC73403)

MRYDKELTENEMIRQKILQQLEWIECNLEHPISIEDIAQKSGYSRRNIQLLFRNFMHV  
PLGEYIRKRRL  
CRAAILVRLTAKSMLDIALSLHFDSQQSFSREFKKLFGCSPREYRHRDYWDLANIFPS  
FLIRQQQKTECR  
LINFPETPIFGNSFKYDIEVSNKSPDEEVKLRRHHLARCMKNFKTDIYFVSTFEPSTKS  
VDLLTVETFAG TVCEYADMPKEWTTTRGLYDPTHVIWTQA

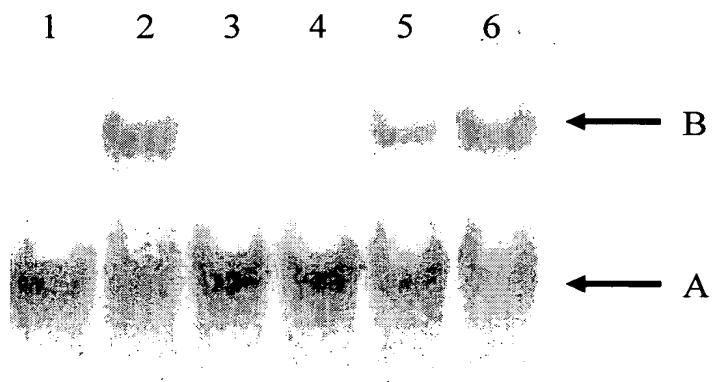
SoxS protein (P22539)

MSHQKIIQDLIAWIDEHIDQPLNIDVVAKKSGYSKWYLQRMFRVTHTQLGDYIRQR  
RLLLAAVELRTTE RPIFDIAMDLGYVSQQTFSRVFRRQFDRTPSDYRHRL

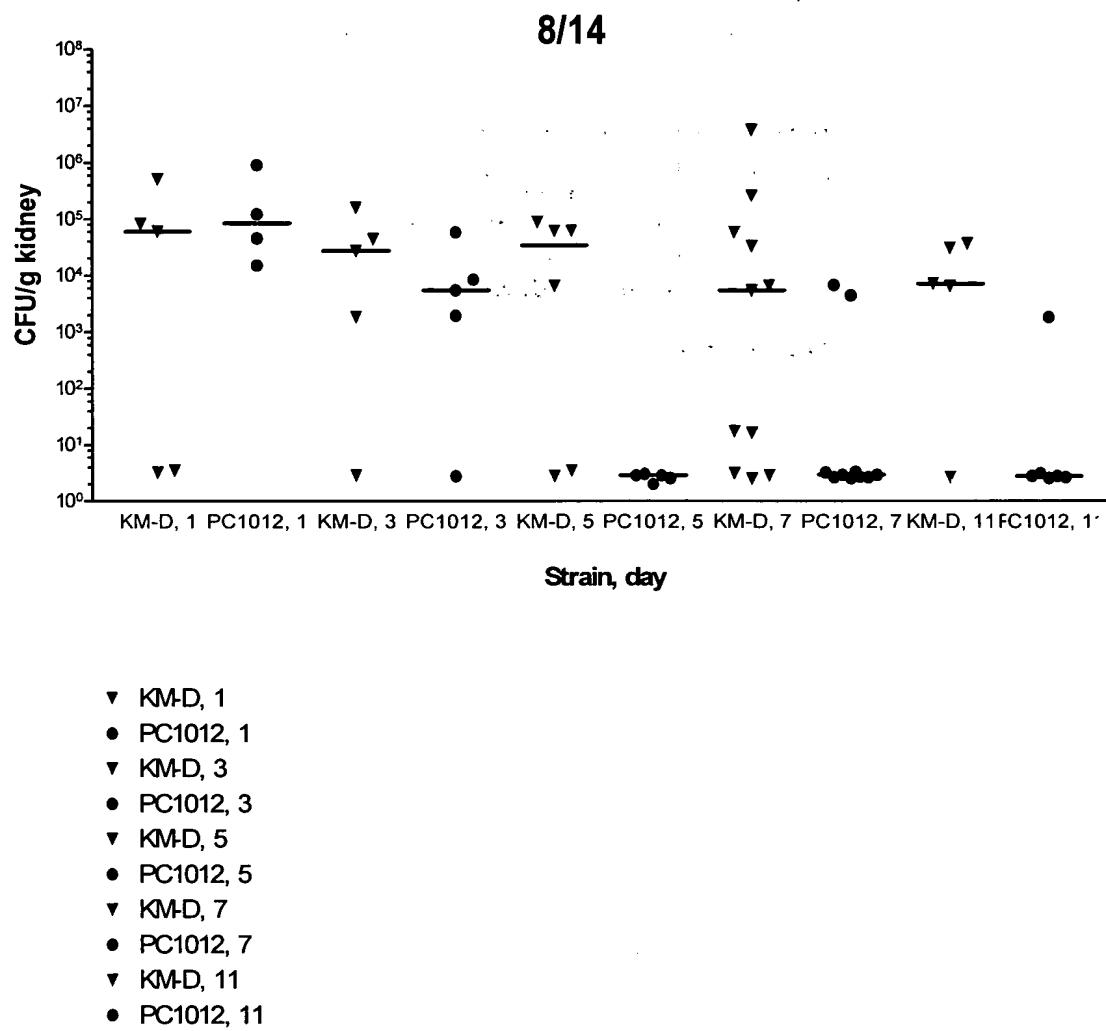
*Fig. 2*



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*Fig. 3*

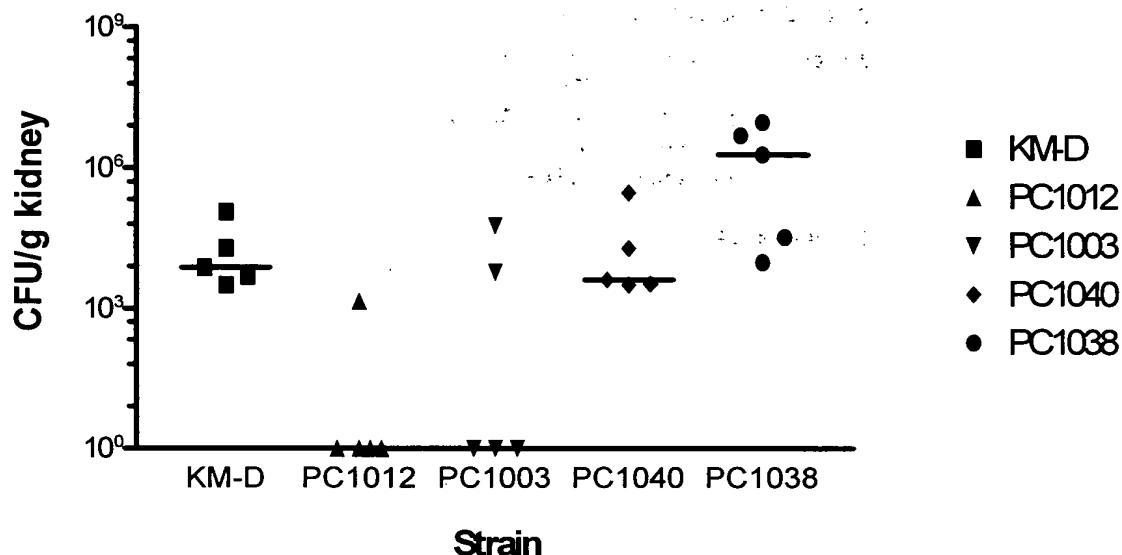


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012, day 1	0.249
KMD vs. PC1012, day 3	0.752
KMD vs. PC1012, day 5	0.018
KMD vs. PC1012, day 7	0.038
KMD vs. PC1012, day 11	0.017

Fig. 4



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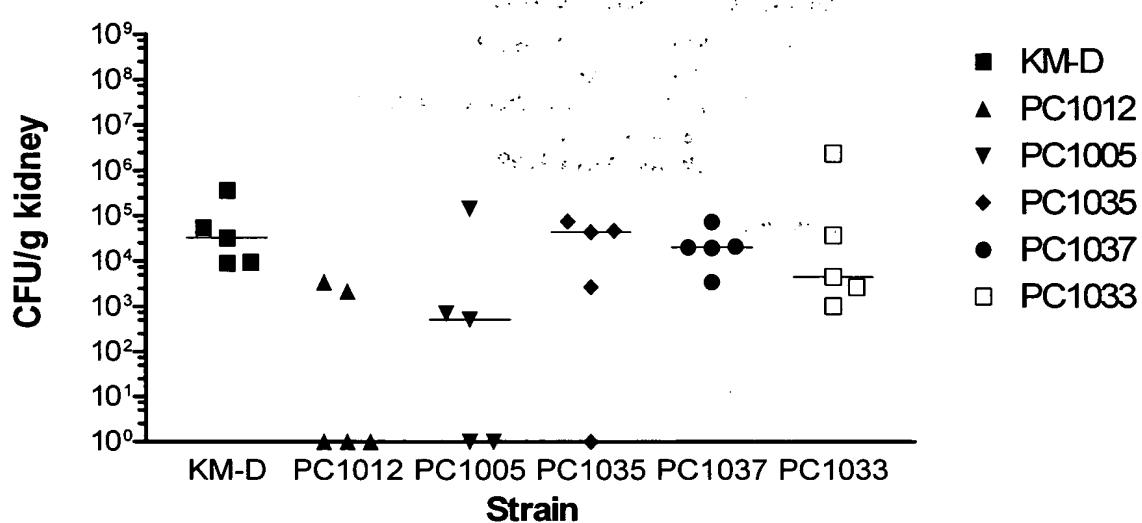


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012	0.001
KMD vs. PC1003	0.061
KMD vs. PC1040	0.990
KMD vs. PC1038	0.042

*Fig. 5*



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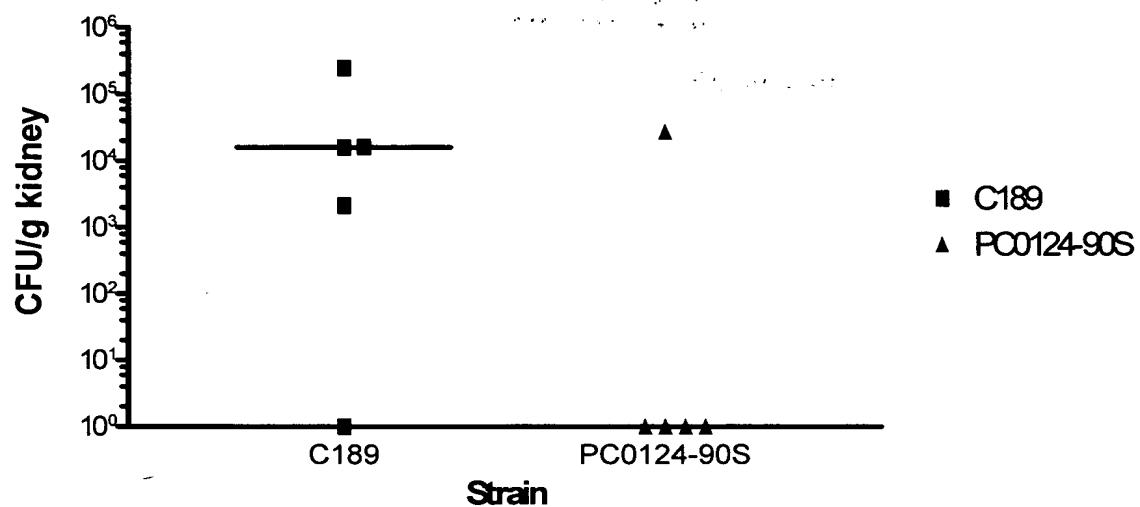


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012	0.007
KMD vs. PC1005	0.002
KMD vs. PC1035	0.318
KMD vs. PC1037	0.455
KMD vs. PC1033	0.477

*Fig. 6*



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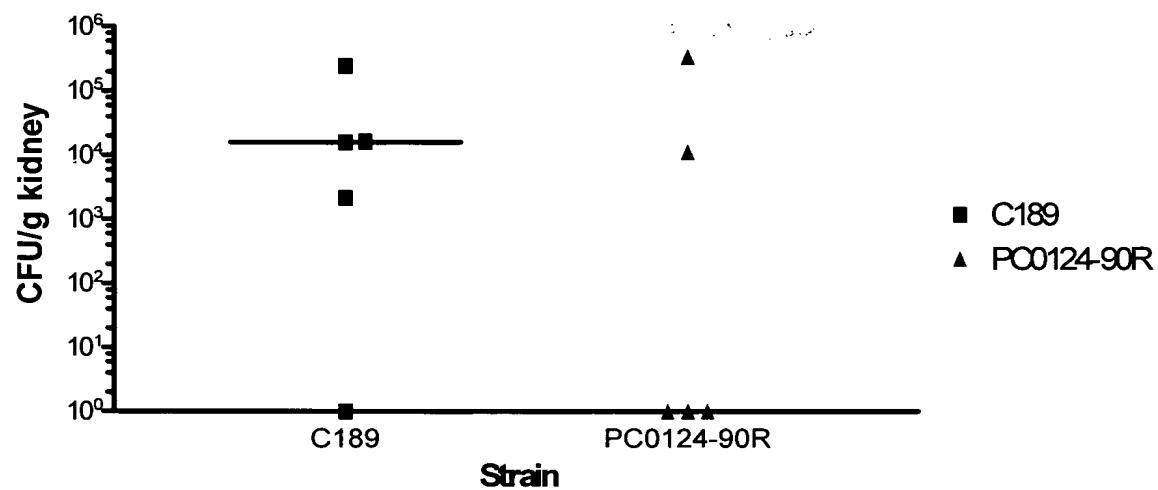
Strain	Student's t-test
C189 vs. PC0124-90S	0.082

*Fig. 7*



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Strain	Student's t-test
C189 vs. PC0124-90R	0.389

Fig. 8



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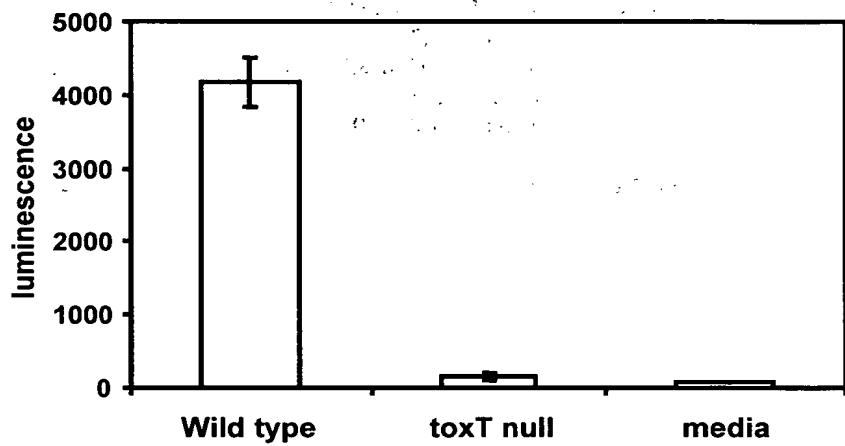


Fig. 9A

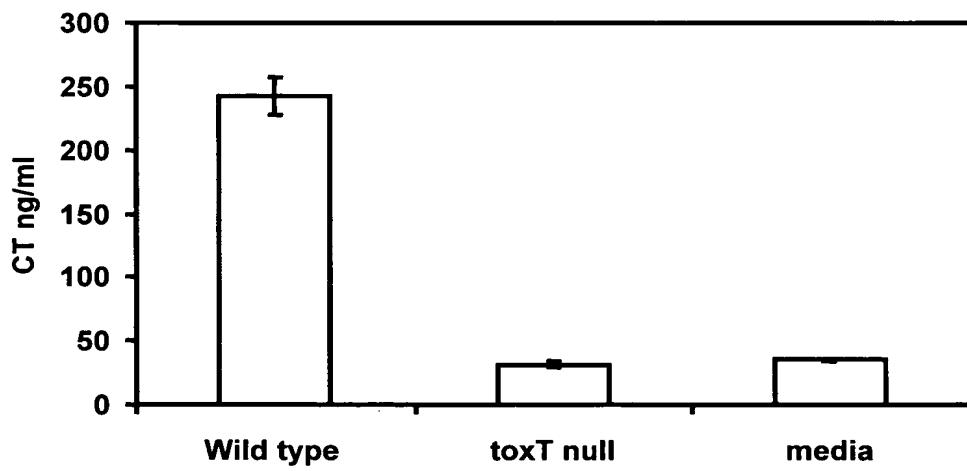
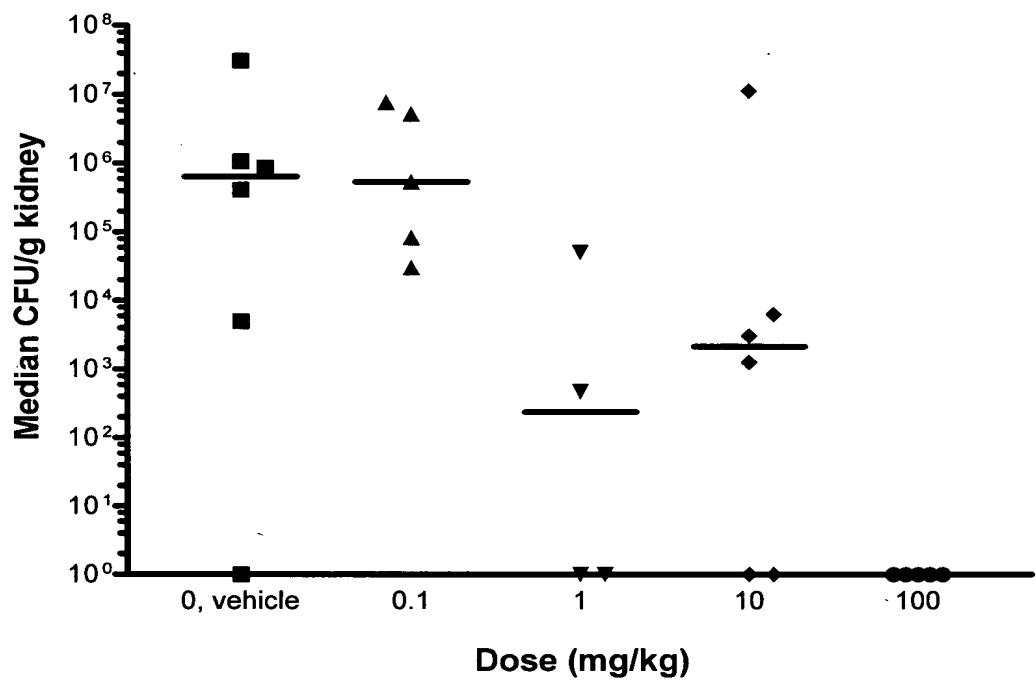


Fig. 9B

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*Fig. 10*